MATH 151 Review 2 (Practice)

INSTRUCTOR
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Past Due **Due Date:** THU, MAR 19, 2026 11:59 PM CDT

Current Score: 19.67 / 20 POINTS | 98.4 %

Due date has passed. No changes can be made without an approved extension request. **You may not be granted an extension if you have already viewed the answer key.**

VIEW ANSWER KEY

Scoring and Assignment Information

QUESTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
POINTS	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	0.67 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1

Assignment Submission

For this assignment, you submit answers by questions. You are required to use a new randomization after every 1 question submissions.

Assignment Scoring

Your last submission is used for your score.

1. **[1 / 1 Points]** 6/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.007.EP.

Find the derivatives of the following functions.

$$g(x) = 2x^3 - 7x^2 + 7$$
$$f(x) = (2x^3 - 7x^2 + 7)^4$$

$g'(x)$ = $$6x2−14x

✔ Good work!

$f'(x)$ = $$4(2x3−7x2+7)3(6x2−14x)

✔ Great!

Resources

Read It

2. **[1 / 1 Points]** 5/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.041.

Find the derivative of the function.

$$y = \sin^2(x^2 + 7)$$

y' =
$$4xsin(x2+7)(cos(x2+7))

✔ Amazing job!

Resources

Read It

3. **[1 / 1 Points]** 6/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.064.
Find the derivative of the function.

$$g(x) = \sec^{-1}(2e^x)$$

$g'(x) =$
$$1\sqrt{4e2x-1}$$

Way to go!

Resources

Read It

4. **[1 / 1 Points]** 3/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.067.
Find the derivative of the function.

$$y = (\tan^{-1}(9x))^2$$

$y' =$
$$18tan-1(9x)81x2+1$$

Amazing job!

Resources

Read It Watch It

5. **[1 / 1 Points]** 3/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.026.
Find the derivative of the function.

$$f(t) = 7^{t^3}$$

$f'(t) =$
$$ln(7)\cdot 3t2\cdot 7t3$$

Great job.

Resources

Read It

6. **[1 / 1 Points]** 5/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.021.

Differentiate the function.

$$y = \ln(e^x + xe^x)$$

$y' =$

$$1 + 11+x

Nicely done!

Resources

Read It Watch It

7. **[1 / 1 Points]** 3/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.025.

Find the derivative of the function.

$$y = e^{\tan(\theta)}$$

$y' =$

$$etan(θ)sec2(θ)

Perfect!

Resources

Read It

8. **[0.67 / 1 Points]** 2/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.8.009.MI.

The half-life of cesium-137 is 30 years. Suppose we have a 150 mg sample.

(a) Find the mass (in mg) that remains after t years.

$y(t)$ =
$$150·(12)(t30)

✓ mg

(b) How much of the sample (in mg) remains after 140 years? (Round your answer to two decimal places.)

6.30 ✗ mg

(c) After how many years will only 1 mg remain? (Round your answer to one decimal place.)

t = 216.9 ✓ yr

Resources

Read It Watch It Tutorial

9. **[1 / 1 Points]** 5/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.042.

Find the derivative of the function.

$$y = e^{\sin(9x)} + \sin(e^{9x})$$

y' = *(No Response)*

Resources

Read It

10. **[1 / 1 Points]** 2/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.085.

If $f(x) = 7x + e^{3x}$, use the formula $(f^{-1})'(x) = \dfrac{1}{f'(f^{-1}(x))}$ to find $(f^{-1})'(1)$.

$(f^{-1})'(1)$ = 1/10 ✓ That's great!

Resources

Read It

11. **[1 / 1 Points]** 1/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.084.

If $f(3) = 2$ and $f'(3) = \frac{4}{5}$, use the formula $(f^{-1})'(x) = \frac{1}{f'(f^{-1}(x))}$ to find $(f^{-1})'(2)$.

$(f^{-1})'(2) =$ 5/4 ✓ Way to go!

Resources

Read It

12. **[1 / 1 Points]** 5/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.5.015.MI.

Find $\frac{dy}{dx}$ by implicit differentiation.

$$y\cos(x) = 3x^2 + 2y^2$$

$\frac{dy}{dx} =$

$$ysin(x)+6xcos(x)−4y

✓ Nice job.

Resources

Read It Watch It Tutorial

13. **[1 / 1 Points]** 7/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.053.

Use logarithmic differentiation to find the derivative of the function.

$$y = (\cos(9x))^x$$

$y'(x) =$

$$(cos(9x))x(ln(cos(9x))−9xtan(9x))

✓ Perfect!

Resources

Read It Watch It

14. **[1 / 1 Points]** 3/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.018.MI.

Find the derivative of the function.

$$f(t) = 5t \sin(\pi t)$$

$f'(t) =$

$$5(\pi t \cos(\pi t) + \sin(\pi t))$$

You're right!

Resources

Read It Tutorial

15. **[1 / 1 Points]** 2/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.017.

Differentiate the function.

$$T(z) = 8^z \log_8(z)$$

$T'(z) =$

$$8z z \ln(8) + (8z \ln(8))(\log 8(z))$$

Amazing work.

Resources

Read It

16. **[1 / 1 Points]** 2/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.037.

Find the derivative of the function.

$$f(x) = \sin(x) \cos(4 - x^2)$$

$f'(x) =$

$$\sin(x) 2x \sin(4-x2) + \cos(4-x2) \cos(x)$$

Well done!

Resources

Read It

17. **[1 / 1 Points]** 3/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.6.051.

Use logarithmic differentiation to find the derivative of the function.

$$y = x^{5 \sin(x)}$$

$y'(x) =$

$$x5sin(x)[5sin(x)x+5cos(x)ln(x)]$$

Awesome job!

Resources

Read It Watch It

18. **[1 / 1 Points]** 1/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.5.010.

Find $\frac{dy}{dx}$ by implicit differentiation.

$$xe^y = x - y$$

$\frac{dy}{dx} =$

$$1−eyxey+1$$

That's it!

Resources

Read It

19. **[1 / 1 Points]** 3/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.5.012.

Find $\frac{dy}{dx}$ by implicit differentiation.

$$e^x \cos(y) = x + y$$

$\frac{dy}{dx} =$

$$$excos(y) −11+exsin(y)

You got it!

Resources

Read It

20. **[1 / 1 Points]** 2/100 Submissions Used

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.4.038.

Find the derivative of the function.

$$g(x) = e^{-x} \cos(x^2)$$

$g'(x) =$

$$$−e−x(2xsin(x2) +cos(x2))

Nice!

Resources

Read It

Home My Assignments